

REMARKS

The Examiner's Answer, containing a new ground of rejection, dated August 3, 2007 has been received and carefully studied.

Applicants respectfully request that prosecution be reopened pursuant to 37 C.F.R. §41.39(b)(1) and are hereby filing a reply under 37 C.F.R. §1.111.

The Examiner newly rejects claim 13 under 35 U.S.C. §103(a) as being unpatentable over any one of four references to Ayambem et al. in combination with U.S. Patent No. 5,110,362 to Hoarty et al. The Examiner states that while the four Ayambem et al. references do not expressly disclose the addition of an alpha-olefin sulfonate to the cementitious compositions based on limestone, the addition of those compounds, which are notoriously known air entrainment agents for cement compositions based on lime, would have been obvious.

By the accompanying amendment, claim 13 has been rewritten in independent form, and now recites preferred amounts of hydraulic binder and polyvinyl alcohol. Support for the amendment can be found on page 16 of the instant specification, and on page 7. Claim 14 has been amended to recite preferred amounts of alpha-olefin sulfate, glass fibers, cellulosic fibers, calcium carbonate, retarder and

Portland cement. Support for the amendment also can be found on page 16 of the instant specification. Claims 1-12 have been cancelled.

The cancellation of claims renders moot the rejection of claims 5-10 under 35 U.S.C. §112, second paragraph. The cancellation of claims 1-12 and the amendment of claim 14 to depend from amended claim 13 also renders moot the rejection of these claims under 35 U.S.C. §103(a) over any one of the four Ayambem et al. references alone or in combination with applicants' own admission on the record, or in combination with von Bonin, U.S. Patent No. 5,374,448.

The two Ayambem et al. publications are the respective publications of the two Ayambem et al. patents cited by the Examiner, and therefore are merely cumulative. Moreover, the two Ayambem et al. patents are related as continuations, so they are also cumulative of each other. Accordingly, the following discussion focuses on Ayambem et al., U.S. Patent No. 6,436,185, but applies to each of the cited Ayambem references.

Ayambem et al. disclose a joint compound for use in filling and coating joints between adjacent gypsum wallboard sheets. More specifically, the objective of the invention of Ayambem et al. is developing a hybrid drying-type/setting-type joint compound. To that end, the joint compound

necessarily includes water, calcium carbonate, optionally calcium sulfate hemihydrate, and a water-soluble set retarder. PVA is disclosed as a binder to improve bonding to the substrate such as wallboard. It is used in an amount of about 0.1 wt.% to about 0.4 wt.% based on the total weight of the joint compound (column 8, lines 61-67). Ayambem et al. does not disclose or suggest that the PVA is powdered PVA as is now recited in amended claim 13, nor does Ayambem et al. disclose or suggest that the PVA is used in an amount effective for enhancing adherence and coherence to a steel substrate, or that it is present in an amount of from 1-3% by weight as is now recited in amended claim 13.

Adding PVA to improve bonding of a joint compound to wallboard is very different from using powdered PVA to enhance adherence and coherence of a fireproofing composition to a steel substrate. Applicants respectfully submit that the skilled artisan would have no reasonable expectation of success in using a binder taught to improve bonding of a drying-type joint compound to wallboard to improve adherence and coherence of a fireproofing composition (both upon spray application and after setting) to a steel substrate. Nor is the skilled artisan taught or motivated to use such a steel adherence and coherence agent

in amount more than double the amount of the joint compound binder of Ayambem et al.

It is noted that amended claim 13 now expressly recites that the PVA is a steel substrate adherence and coherence agent. As stated in the instant specification, the presence of the instant substrate adherence and coherence agent may be particularly advantageous where the compositions are applied when ambient temperatures (and thus the temperature of the steel substrate) are near or below 0°C. Certainly the adherence and coherence of the Ayambem et al. joint compound to wallboard of interior walls (note column 1 lines 18-21 of Ayambem et al. referring to interior walls being constructed of wallboard) at such low temperatures is not a concern.

Accordingly, Ayambem et al. do not suggest the use of powdered PVA as a steel substrate adherence and coherence agent in an amount of 1-3% by weight.

Furthermore, the present invention is directed to a dry mixture for forming a fireproofing composition adapted to be spray applied to a steel substrate. As set forth in the background section of the instant application and as known in the art, such dry mixtures and the resulting fireproofing compositions must be many important criteria in order to be effective. The slurries formed upon addition of water to

the dry mixtures must hold a sufficient amount of water so that the slurries are pumpable to great heights, yet they must retain a consistency sufficient to prevent segregation and settling of ingredients and permit adequate yield or coverage of the steel substrate at a given thickness. The applied formulation must adhere to the steel substrate, both in the slurried state during application, and in the dry or set state after application, and must retain fireproofing properties. These characteristics of the dry mixture, and the slurry formed upon the addition of water, are not a concern for the joint compound of Ayambem et al.

Hoarty et al. relate to cement compositions such as concretes and mortars with enhanced air entrainment. To that end, the cement compositions comprise up to about 65% pulverized fuel ash and an air entrainment agent. Hoarty et al. do not supply the above deficiencies of Ayambem et al.

Reconsideration and allowance are respectfully requested in view of the foregoing.

Respectfully submitted,

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